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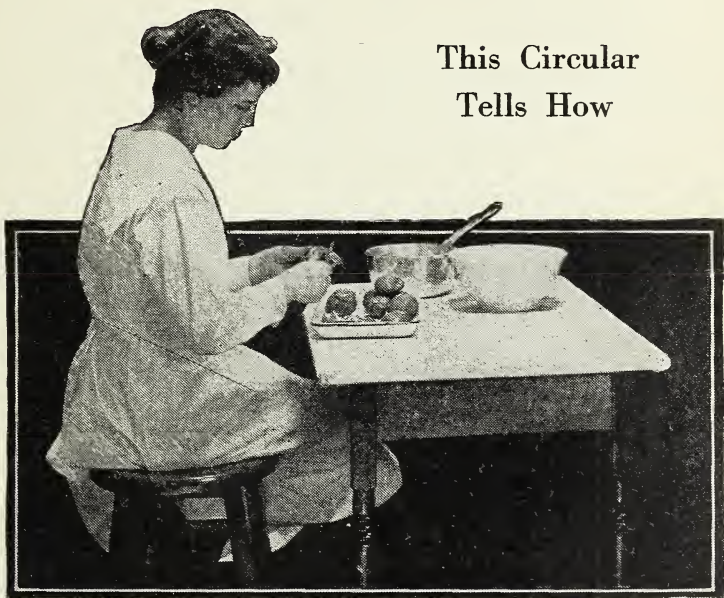
UNITED STATES DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY—Circular No. 106

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# USE POTATOES TO SAVE WHEAT

This Circular  
Tells How



Potatoes are always available and easy to prepare

Contribution from  
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**A** MERICANS should use the potato even more freely and in a greater variety of ways than at present. Wheat must be saved for the American forces and the Allied armies in Europe, and potatoes can help save it.

This circular gives recipes for a variety of potato dishes. When you serve potatoes in these ways you will need less bread. The circular also tells how to use potatoes in place of flour for various purposes as well as how to use potato flour and potato starch as wheat substitutes.

## USE POTATOES TO SAVE WHEAT.

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**T**HE POTATO has a place on our food list which no other vegetable occupies. It appears on the tables of countless families at least once a day and often at all three meals, and is so much a part of our daily food that we miss it almost as much as we would bread if we have to go without it. Its popularity is based on more than accident or custom, for it is both palatable and wholesome and lends itself to a great many methods of preparation; in fact, there are almost endless good ways of serving it—baked, boiled, served with meats, in soups, in salads, and even in desserts. We are learning also to use the cooked potato in making bread and cake. That we can use potato partly to replace the flour in such mixtures is not surprising, for the food substance which potato supplies most abundantly is starch, and it is also chiefly because of the starch they contain that the world uses cereal grains as breadstuffs.

It has become our especial duty to save wheat and it has been found that mashed potatoes can be used to replace one-third to one-half of the flour in many recipes. It has also been found that the addition of a small amount of mashed potatoes improves the texture of breads and cakes made wholly from the wheat substitutes. Try the recipes for breads and cakes which follow. They all make use of potato to help replace the wheat.

The following recipes have been tested in the Experimental Kitchen of the Department of Agriculture, Office of Home Economics, and of the Home Conservation Section of the U. S. Food Administration.

### YEAST BREAD.

If raw or cooked potato is used for bread making, allowance must be made for the large amount of water in it and less additional liquid used for this reason. A pound of mashed potatoes contains about  $1\frac{1}{4}$  cups of water, and starch and other substances about equivalent in bread making to 1 cup of wheat flour. In this recipe part of the wheat flour ordinarily required is replaced by the mashed potato and part by the ground rolled oats, so that the resulting loaf contains a little less than 50 per cent wheat flour.

#### Sponge Method.

This recipe makes three loaves weighing about 1 pound each.

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|--|--|
| 3 cups mashed potatoes packed compactly into the cup when measured (equivalent to about 2 cups water and $1\frac{1}{2}$ cups wheat flour). | 3% cups rolled oats ground through a food chopper. |
|  | 2 tablespoons corn sirup.                          |
|  | $1\frac{1}{2}$ tablespoons (level) salt.           |
|  | 1 cake yeast.                                      |
| $4\frac{1}{2}$ cups wheat flour.   | $\frac{3}{4}$ cup potato water.                    |

Clean, peel, and boil about  $3\frac{1}{2}$  pounds of potatoes. Mash carefully to remove all lumps or force through a potato ricer. Do not add milk or fat to the potatoes when mashing. Pack compactly into the cup when measuring. Allow them to cool until lukewarm, then make a sponge from the potatoes, sirup, salt, yeast cake softened in the  $\frac{1}{4}$  cup of liquid, and  $1\frac{1}{2}$  cups wheat flour. If dry yeast is used, set the sponge at night and mix up the bread in the morning. If compressed yeast is used, it is not necessary to set the sponge at night. Set the



sponge in a warm place to rise. When the sponge is light, mix in the remaining wheat flour and the ground rolled oats. Knead thoroughly until a smooth and stiff dough is formed. Set away at 80° to 86° F. for about 2 hours or until the dough is doubled in bulk. Form into three loaves and allow them to rise again. Grease the top of the loaves before putting to rise. When double in bulk, bake for 50 minutes in a hot oven.

## QUICK BREADS.

Try this recipe for wheatless tea biscuits. Notice that the liquid is less than in the case where all flour is used.

### POTATO TEA BISCUIT.

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|--------------------------------|----------------------------|
| 2¼ cups ground rolled oats, or | 3 teaspoons baking powder. |
| 2¾ cups barley flour.          | 4 tablespoons shortening.  |
| 1 teaspoon salt.               | 1 cup mashed potatoes.     |
|                                | ¼ cup liquid.              |

Grind the rolled oats through the food chopper; add salt and baking powder. Cut or rub into this the cold shortening. In the same way rub into this flour mixture the mashed potato. Finally add just enough cold liquid to make the mass cling together. Do not knead. Place on floured board, roll ½ inch thick, and cut into rounds. Place these in lightly floured biscuit tins and bake 20 minutes in a moderately hot oven.

All potato breads require to bake more slowly than those made with wheat flour alone.

### POTATO-CORNMEAL MUFFINS.

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|----------------------------|---------------------------|
| 1 cup mashed potato.       | 1 or 2 tablespoons sirup. |
| 1 cup cornmeal.            | 2 tablespoons shortening. |
| ½ cup sifted flour.        | 1 or 2 eggs.              |
| 1 teaspoon salt.           | Liquid to mix to a medium |
| 3 teaspoons baking powder. | batter (about ½ cup).     |

Add the cornmeal, salt, sirup, and ½ cup liquid to the hot mashed potato, place in double boiler, and steam 10 to 20 minutes. Add the shortening and allow to cool thoroughly. When cold add the well-beaten eggs and the flour which has been sifted with the baking powder. Add just enough more liquid, if necessary, to make a somewhat stiff batter. Beat thoroughly, place in gem pans until half-filled, and bake 25 to 30 minutes in a moderately hot oven.

### QUICK NUT BREAD.

- |                           |                            |
|---------------------------|----------------------------|
| 1 cup milk.               | 1½ cups rice flour.        |
| 2 tablespoons melted fat. | 1¾ cups barley flour.      |
| 4 tablespoons sirup.      | 4 teaspoons baking powder. |
| 2 eggs.                   | 1 teaspoon salt.           |
| ½ cup mashed potatoes.    | 1 cup chopped nuts.        |

Mix in order given. Bake in loaf in a moderate oven for 1¼ hours.

## MASHED POTATO IN CAKE MAKING.

### CHOCOLATE POTATO CAKE.

In this recipe half of the flour ordinarily used is replaced by mashed potatoes.

- |                            |                            |
|----------------------------|----------------------------|
| ½ cup butter or other fat. | ½ teaspoon salt.           |
| 1 cup sugar.               | 2 squares chocolate.       |
| 1½ cups riced potato.      | 6 teaspoons baking powder. |
| 2 eggs.                    | 1½ cups wheat flour.       |
| ½ cup milk.                |                            |

Cream the butter, add the sugar gradually, then the well-beaten egg, and warm potatoes. Beat well. Sift the flour, salt, and baking powder, then add to the first mixture with sufficient milk to make a cake dough. Bake about 35 minutes in a moderate oven.

It has also been shown by experiments that a small amount of mashed potatoes improves the texture of the cake made from substitute flours.

## RICE FLOUR CAKE.

$\frac{1}{4}$ cup fat.	$\frac{1}{2}$ cup milk.
$\frac{3}{4}$ cup sugar.	1 teaspoon salt.
2 eggs.	2 teaspoons baking powder.
$\frac{1}{2}$ cup riced boiled potatoes	$1\frac{1}{2}$ cups rice flour.
packed compactly into a cup.	1 teaspoon vanilla.

Mix in order given. Bake in muffin molds or in layer cake tins.

For chocolate cake add 2 squares chocolate to the above recipe.

For spice cake add 1 teaspoon cinnamon,  $\frac{1}{2}$  teaspoon grated nutmeg and 1 teaspoon spice.

## EAT POTATOES INSTEAD OF BREAD.

Potatoes are a splendid fuel food; one medium-sized potato furnishes as much starch as two slices of bread. Besides, they furnish some good protein as well as body-building material in the form of valuable mineral matter which the body needs. In a meal when a variety of food is served potatoes can easily replace the bread used. One need not grow tired of them, for they can be served in so many different ways. A few good potato dishes are given below.

## POTATO CAKES.

Season cold mashed or riced potatoes to taste with salt and pepper, and mix with a little milk. Add egg, if desired. Mould with the hands into small round cakes. Brown on both sides in a well-greased skillet, frying pan or griddle, and serve hot.

## BROWNED POTATOES.

Parboil potatoes for 10 minutes. Remove the skins and place the potatoes on a roasting rack with meat. Bake them for about 40 minutes, or until the potatoes are tender, basting them occasionally with the juice in the pan.

## HASHED-BROWN POTATOES.

3 cups cooked potatoes, chopped	6 tablespoons milk.
fine.	2 tablespoons butter or drippings.
1 teaspoon salt.	$\frac{1}{4}$ teaspoon pepper.

Combine all the ingredients except the butter. Melt the latter in a frying pan, add the potato mixture, and smooth down, pressing it in shape. Cook for a moment over a quick fire and then slowly for 20 minutes, watching carefully that it does not burn. Then fold as an omelet, pressing the parts together. Turn onto a heated platter, and serve garnished with parsley and bacon, if it is to serve as a substantial dish.

## RICED POTATOES.

Force boiled potatoes through a ricer or a coarse strainer into a hot vegetable dish. Avoid rehandling in order to keep the potatoes light and attractive in appearance. Riced potatoes are particularly appropriate with roasted chicken or meat served with gravy.

## SCALLOPED POTATOES.

Wash and pare potatoes, and cut in  $\frac{1}{8}$ -inch slices. Grease baking dish, put in a layer of the sliced potatoes, sprinkle with salt and pepper, dredge with flour, and dot over with 1 teaspoon butter. (A little grated cheese sprinkled over each layer not only adds flavor, but makes it possible to omit the butter.) Repeat until the baking dish is nearly filled, then cover with hot milk. Bake  $1\frac{1}{4}$  hours in a moderate oven or until the potatoes are soft.

Left-over boiled potatoes may be used in preparing this dish. In such case, 2 cups of cold diced potatoes are seasoned with  $\frac{1}{2}$  teaspoon salt,  $\frac{1}{8}$  teaspoon pepper, and a cream sauce made according to the following directions:  $1\frac{1}{2}$  tablespoons flour,  $\frac{1}{2}$  teaspoon salt, and  $\frac{1}{8}$  teaspoon pepper mixed to a smooth paste with 2 tablespoons of cold milk. This is added to  $1\frac{1}{2}$  cups of boiling milk, stirring constantly. Allow this to boil for about 1 or 2 minutes. After the cream sauce has been added to the potatoes, place in a shallow baking dish, cover with bread crumbs, and bake for  $\frac{1}{2}$  hour in a moderate oven.

## POTATOES WITH CHEESE AND GREEN PEPPER.

- |                                 |   |
|---------------------------------|---|
| 2 cups diced cooked potatoes.   | $\frac{1}{4}$ teaspoon pepper.            |
| 1 tablespoon flour.             | 1 green pepper cooked and                 |
| 1 tablespoon fat.               | chopped.                                  |
| $\frac{1}{2}$ cup skimmed milk. | $\frac{1}{2}$ cup grated American cheese. |
| 1 teaspoon salt.                | $\frac{1}{2}$ cup bread crumbs.           |

Make the sauce, using the fat, flour, milk, and seasoning. Mix the potato and the green pepper with the white sauce and cheese. Put in a baking dish and cover with the bread crumbs and brown in a hot oven.

NOTE.—Canned red pepper or pimento can be used in place of the green pepper.

## STUFFED POTATOES.

Bake potatoes in a hot oven for about 45 minutes or until soft. Cut a slice from the side of each and scrape out the inside. Mash this and season with salt and pepper. Add enough heated milk to bring to the consistency of ordinary mashed potatoes. When partly cooled add egg. This may be left-over whites or yolks or whole eggs, well beaten. Add not more than 1 egg to 6 medium-sized potatoes. Refill the skins, brush with melted fat, and put back in the oven for 5 or 10 minutes. Serve hot.

## POTATO MOLD.

- |                    |                                     |
|--------------------|-------------------------------------|
| 3 medium potatoes. | $\frac{1}{2}$ teaspoon salt.        |
| 3 medium carrots.  | $\frac{1}{8}$ teaspoon pepper.      |
| 1 cup milk.        | $\frac{1}{8}$ teaspoon celery seed. |
| 2 tablespoons fat. |                                     |

Boil potatoes and carrots and mash well. Pass through fine sieve and mix well together with the warmed milk and fat. Place in greased mold and set in hot oven for 20 minutes. Turn out on hot dish and brown in oven 30 minutes. Serve with tomato sauce. Serves six persons.

## POTATO SOUFFLE'.

- |   |                                     |
|---|-------------------------------------|
| 3 tablespoons fat.                      | 1 teaspoon salt.                    |
| 2 tablespoons potato starch.            | $\frac{1}{8}$ teaspoon pepper.      |
| $\frac{2}{3}$ cup milk or potato water. | $\frac{1}{8}$ teaspoon celery salt. |
| 1 cup riced potatoes.                   | $\frac{1}{8}$ teaspoon onion juice. |
| 3 egg yolks, well beaten.               | 3 egg whites, beaten stiff.         |

Mix ingredients in order given and bake until firm in greased, covered baking dish in slow oven. Serves five persons.

## POTATO OMELET.

- |                                |                  |
|--------------------------------|------------------|
| 1 cup mashed potatoes.         | 1 teaspoon salt. |
| $\frac{1}{4}$ teaspoon pepper. | 3 eggs.          |
| 3 tablespoons cream or milk.   |                  |

Wash eggs, and separate the whites and yolks. Add the yolks to the potatoes and beat until there are no lumps. Season with onion juice, if desired, and chopped parsley. Beat the whites until stiff and fold into the potato mixture. Put into a well-greased frying pan and bake in oven until brown. Then turn and fold on hot platter. Serve at once.

## POTATO AND CHEESE MOLDS.

- |                              |                         |
|------------------------------|-------------------------|
| 2 cups cooked potatoes.      | $\frac{1}{4}$ cup milk. |
| 4 tablespoons grated cheese. | 1 teaspoon salt.        |
| 2 tablespoons fat.           |                         |

Rub potatoes through a sieve, melt fat in saucepan, add potatoes, and mix well; then add the milk and half the cheese and seasoning. Put into a greased baking dish, small ramekins, or baking cups, sprinkle the rest of the cheese on top and bake in a fairly quick oven about 10 minutes.

## POTATO AND EGG MOLD.

- |                         |                  |
|-------------------------|------------------|
| 2 cups mashed potatoes. | 1 cup egg sauce. |
|-------------------------|------------------|

Mix the potatoes with the egg sauce and season. Put in baking dish or baking cups and bake until lightly browned. The egg sauce is made as follows:



## EGG SAUCE.

1 cup milk.	Salt.
$\frac{1}{2}$ tablespoon potato starch.	Pepper.
1 tablespoon fat.	1 hard-boiled egg.

Make a cream sauce by mixing the potato starch with the melted fat, combining with the milk and cooking until thickened. Add the finely chopped egg to this.

## PLAIN POTATO SALAD.

Wash the potatoes and boil in the skins until soft. Drain, cool, skin, and dice into half-inch cubes. Season with salt, pepper, and a few drops of onion juice if desired. Pour over all a French dressing made by mixing in the order named  $\frac{1}{2}$  teaspoon salt,  $\frac{1}{8}$  teaspoon cayenne, 1 tablespoon vinegar or lemon, 1 tablespoon table oil. Heap in a mound in a salad dish, and garnish with lettuce and hard-boiled eggs.

## COMBINATION VEGETABLE SALAD.

For variety, add to the potatoes varying proportions of diced cold cooked vegetables, such as beets, carrots, or beans. Fresh celery or cucumbers cut in small pieces also make pleasant additions to potato salad. Other dressings may be used, if desired.

## MEAT EXTENDERS AND MEAT SUBSTITUTES.

Potatoes go well with meats of all kinds. In these recipes they help make the meat go farther or help to make a palatable meal without meat.

## POTATO STUFFING.

2 cups mashed potatoes.	1 stalk celery finely minced, or
1 egg (beaten).	$\frac{1}{2}$ teaspoon celery salt.
1 small onion finely minced.	1 teaspoon salt.
1 tablespoon fat.	Pepper.

Mix the ingredients and use in place of ordinary bread stuffing.

## POTATO HASH.

Equal parts of finely chopped cooked potato and chopped cold cooked fish or meat may be used as the basis for a breakfast dish.

2 cups chopped potato.	$\frac{1}{4}$ teaspoon pepper.
2 cups chopped meat or fish.	3 tablespoons fat.
1 teaspoon salt.	$\frac{1}{2}$ cup boiling water.

Melt the fat in the frying pan; add the potato and meat or fish mixture, pour over the top the water and cook slowly without stirring until the under surface is a rich brown. Fold as an omelet and serve hot on a platter.

## POTATO THISTLE.

Line a dish around the sides with mashed potatoes prepared as for the table, then fill with minced lamb or veal or other left-over meat well seasoned; cover over top with mashed potatoes, and criss-cross with a knife. Put in oven and brown.

Left-over meat and potatoes can be used.

## POTATO AND NUT SAUSAGE.

2 cups mashed potatoes.	Few grains cayenne.
$\frac{1}{2}$ pound nuts of any kind.	Pinch celery seed.
1 egg well beaten.	$\frac{1}{2}$ cup milk (approximately).
$1\frac{1}{2}$ teaspoons salt.	$\frac{1}{8}$ pound salt pork.
$\frac{1}{8}$ teaspoon pepper.	

To the mashed potatoes add enough milk to bind them. Put nuts in boiling water to loosen skins, remove skins and put nuts through meat grinder. Mix nuts and potatoes thoroughly and season well. Add well-beaten egg to potato mixture. Form into sausages, flour them well, put into greased pan, and put a small piece of salt pork on top of each sausage. Bake in a fairly hot oven until brown (about 45 minutes). Serve with tomato sauce

## POTATO AND BEAN CAKES.

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|---------------------------------|---------------------------------|
| 1 cup boiled potatoes, riced.   | 1 can pimentos.                 |
| 1 cup cooked lima beans, riced. | $\frac{1}{2}$ cup bread crumbs. |

Mix thoroughly and salt to taste. Form into cakes. Dip into beaten egg, sprinkle with bread crumbs, and bake in a moderate oven until slightly brown; turn carefully and brown on the other side. Serve with a tomato or cheese sauce.

## POTATO CRUST FOR MEAT PIE.

- |                                   |                           |
|-----------------------------------|---------------------------|
| $1\frac{3}{8}$ cups barley flour. | 3 teaspoons milk.         |
| $\frac{1}{2}$ teaspoon salt.      | 4 tablespoons shortening. |
| 1 teaspoon baking powder.         | 1 cup mashed potatoes.    |

Follow the directions for mixing given under Potato Biscuit. Roll out in a thin sheet and cover the pan with the crust. This crust can be used with a beef pie or any other meat pie.

## OTHER POTATO PRODUCTS THAT SAVE WHEAT.

Many bushels of potatoes that might otherwise be wasted are now used to make potato flour and potato starch.

## POTATO FLOUR.

Potato flour is made by grinding the dried and usually cooked potatoes to a suitable fineness. Potato flour can be made at home or bought on the market. Its use will save wheat, for it can be substituted as oat, barley, and other flours for wheat flour in breads. Use  $\frac{3}{4}$  of a cup of potato flour to replace 1 cup of wheat flour. It may be used successfully in making quick breads, such as muffins, and in yeast breads, in combination with other flours.

## BARLEY AND POTATO FLOUR MUFFINS.

- |                          |                                   |
|--------------------------|-----------------------------------|
| 1 cup milk.              | $1\frac{3}{8}$ cups barley flour. |
| 1 egg.                   | $\frac{3}{4}$ cup potato flour.   |
| 1 tablespoon shortening. | 1 teaspoon salt.                  |
| 1 tablespoon corn sirup. | 4 teaspoons baking powder.        |

Combine the liquid ingredients, then add the dry ingredients sifted together. Mix well and bake in well-greased muffin molds for from 30 to 40 minutes.

## POTATO STARCH.

Potato starch, sometimes sold in packages under the trade name potato flour, is another potato product with many possibilities as a wheat saver. It may be used instead of wheat flour for thickening sauces and gravies. In cake making potato starch may be substituted for all or part of the wheat flour ordinarily used. Use  $\frac{3}{4}$  of a cup of potato starch to replace 1 cup of wheat flour.

A delicious potato starch sponge cake can be made as follows:

## SPONGE CAKE.

- |                                 |                              |
|---------------------------------|------------------------------|
| 4 eggs.                         | Rind of $\frac{1}{2}$ lemon. |
| $\frac{3}{4}$ cup sugar.        | $\frac{1}{2}$ teaspoon salt. |
| 1 tablespoon lemon juice.       | 1 teaspoon baking powder.    |
| $\frac{1}{2}$ cup potato flour. |                              |

Beat yolks until light and lemon colored; add sugar gradually and continue beating. Add lemon juice and grated rind, then fold in the flour that has been sifted with the dry ingredients. Beat whites very stiff and combine with the other mixture, folding them in carefully. Bake in a loaf or a pan with a stem for 1 hour in a slow oven, or bake in muffin molds.

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As a thickening agent, 1 tablespoon of potato starch thickens 1 cup of liquid to the consistency of a thick sauce or makes a pudding of the right consistency for molding.



